



First Aid for a Flooded Septic System

If your household uses a typical septic system, heavy rains and floods can halt its ability to treat wastewater from your home. When rainwater or flood waters pond over the drainfield, there is no place for wastewater from the household plumbing to drain because the drainfield and soil beneath are saturated, and your entire system can fail.

While your major concern may be about your onsite treatment system, it is important to remember that if a septic system has been flooded, nearby wells may also have been inundated. Use an alternate drinking water source until you can test and disinfect your water supply. The Florida Department of Health in Lee County may have additional information and warnings. It is always wise to check in with them when the normal functioning of your septic system is in question.

Drainfields need to breathe

A traditional individual home septic system has two main components. A septic tank holds about one to two days of normal water use from the house and traps solids. A drainfield receives the partially-treated septic tank effluent and discharges the effluent below ground into the natural soil for final treatment and dispersal. Where site conditions are suitable, subsurface soil absorption is usually the best method of wastewater dispersal for single dwellings. It is simple, stable, and low cost.

A typical drainfield is a series of trenches or a bed lined with crushed stone or plastic chambers and buried one to three feet below the ground surface. The wastewater is treated by the soil as it eventually percolates down to the ground water.

Proper septic system performance relies on the soil's ability to treat and disperse wastewater. Under normal conditions, the soil is unsaturated, thus aerobic (that is, contains oxygen), and able to properly treat wastewater by removing pathogens and other contaminants. When the area of your yard where these drainfields are buried becomes waterlogged, the soil becomes anaerobic, causing the septic system to malfunction.

When drainfields are saturated, contaminants from the partially treated wastewater can enter ground and surface waters. In addition, when the water can't flow out of the septic tank to the drainfield because of these flooded conditions, the water backs up into the house.

If your drainfield area is flooded or very saturated, you might notice some of these signs indicating that your septic system is in distress:

- Drains in the house will flow slowly
- Toilets drain slowly or sound strange when flushed
- Water may back up into shower or tub drains.

The drainfield was designed to accept the amount of water normally discharged from the house. When additional water from rain or flooding is added to the drainfield, its ability to handle household water becomes seriously limited. See figure 1.

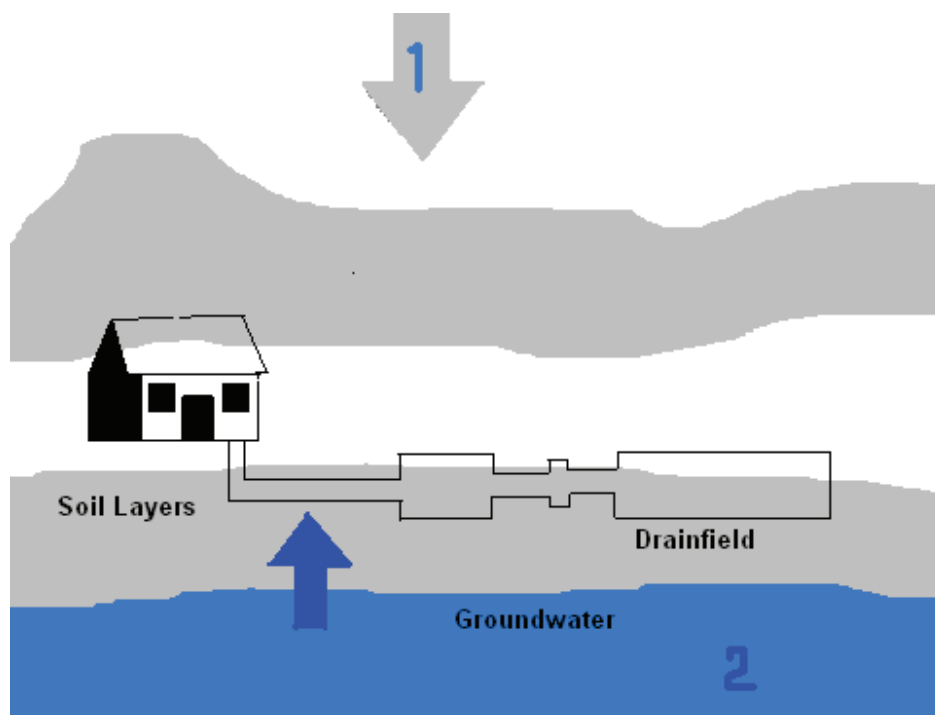


Figure 1

Septic system flooding may occur from any of these sources: 1) Excessive precipitation; 2) Rising local steams, waterways, and groundwater.

Before the flood

A well-maintained septic system is better able to withstand the stresses of heavy rains or flooding, so it is recommended to keep the system pumped and in good working order at all times.

In the event that you are forewarned of impending flooding, you should take these steps to minimize the adverse effects of floodwater on your septic system:

1. Seal all possible points of excess flow to the system. If possible, seal the manhole and inspection ports to keep excess water out of the septic tank.
2. If you have a pump in the lift station of a mound system, turn off the electricity. (Don't forget to turn the pump back on before you use the system again.)
3. Waterproof all electrical connections to avoid electrical shock or damage to wiring, pumps, and the electrical system.

During a major rain or storm

While the storm is in progress homeowners are advised to eliminate all non-essential water use and flush toilets as little as possible. If the drainfield becomes covered with water, do not use the system at all and avoid contact with any standing water that may contain sewage.

After the storm

Under flooded conditions, do not have the septic tank pumped. Pumping it out could cause the tank to float out of the ground, damaging the inlet and outlet pipes. The tank is not really the problem; it's the saturated soil around the drainfield. (Be aware that a recently installed system may pop out of the ground on its own since the soil has not had much time to settle and compact around it.)

The best thing you can do is to avoid using the system if at all possible, allowing time for the water to recede and the soil around the drainfield to dry out. The less water sent to the system the better off the system will be. Several ways to reduce water use include:

- If not already done, re-route water from roof gutters away from the drainfield area.
- Don't use the dishwasher or garbage disposal.
- Reduce the number of showers or baths. Consider one bath or shower every other day per person.
- Don't do laundry at home. Wash clothes at a laundromat if possible.

Additional suggestions for flooded systems:

- Homeowners should drastically reduce water use in the house. Rent a portable toilet if necessary.
- Do not dig into the tank or drainfield area while the soil is still wet or flooded. Avoid working around the drainfield while the soil is wet. Never drive a vehicle over the drainfield area. These activities will ruin the soil's ability to treat the effluent.
- The floating crust of fats and grease in the septic tank may lift up and block the outlet tee. If the septic system backs up into the house, first check the tank's outlet for blockage.
- Avoid contact with any electrical devices that are part of the system until they are dry and clean.
- Have your onsite wastewater system professionally inspected and serviced if you suspect damage.

With a little bit of common sense, you and your septic system should weather the storm. By following some of these tips, you should be able to prepare, respond, and recover from a flooding situation with your onsite wastewater treatment system still operational. The drainfield may still be saturated and have insufficient percolation capacity for several weeks and the effluent might pond on the surface. As the floodwaters recede, the system should drain and begin to function properly. These adverse conditions should gradually correct themselves.

Additional Resources:

"Septic Systems and Flooding" at <http://water.epa.gov/drink/emergency/flood/septic/systems.cfm>

or contact the Florida Department of Health in Lee County 239-690-2100